1) docker images

```
PS C:\Program Files\Docker\Docker> docker images
REPOSITORY      TAG        IMAGE ID    CREATED    SIZE
```

2) docker search

```
PS C:\Program Files\Docker\Docker> docker search ubuntu
NAME                                                DESCRIPTION                                      STARS     OFFICIAL    AUTOMATED
ubuntu                                              Ubuntu is a Debian-based Linux operating sys…    12402     [OK]
dorowu/ubuntu-desktop-lxde-vnc                      Docker image to provide HTML5 VNC interface …    543                   [OK]
websphere-liberty                                   WebSphere Liberty multi-architecture images …    274       [OK]
rastasheep/ubuntu-sshd                              Dockerized SSH service, built on top of offi…    253                   [OK]
consol/ubuntu-xfce-vnc                              Ubuntu container with "headless" VNC session…    241                   [OK]
ubuntu-upstart                                      Upstart is an event-based replacement for th…    110       [OK]
1and1internet/ubuntu-16-nginx-php-phpmyadmin-mysql-5  ubuntu-16-nginx-php-phpmyadmin-mysql-5         50                    [OK]
open-liberty                                        Open Liberty multi-architecture images based…    46        [OK]
ubuntu-debootstrap                                  debootstrap --variant=minbase --components=m…    44        [OK]
i386/ubuntu                                         Ubuntu is a Debian-based Linux operating sys…    25
solita/ubuntu-systemd                               Ubuntu + systemd                                 24                    [OK]
1and1internet/ubuntu-16-apache-php-5.6              ubuntu-16-apache-php-5.6                         14                    [OK]
1and1internet/ubuntu-16-apache-php-7.0              ubuntu-16-apache-php-7.0                         13                    [OK]
1and1internet/ubuntu-16-nginx-php-phpmyadmin-mariadb-10  ubuntu-16-nginx-php-phpmyadmin-mariadb-10  11                    [OK]
1and1internet/ubuntu-16-nginx-php-5.6-wordpress-4   ubuntu-16-nginx-php-5.6-wordpress-4              9                     [OK]
1and1internet/ubuntu-16-nginx-php-5.6               ubuntu-16-nginx-php-5.6                          8                     [OK]
1and1internet/ubuntu-16-apache-php-7.1              ubuntu-16-apache-php-7.1                         7                     [OK]
1and1internet/ubuntu-16-nginx-php-7.0               ubuntu-16-nginx-php-7.0                          4                     [OK]
pivotaldata/ubuntu                                  A quick freshening-up of the base Ubuntu doc…    4
1and1internet/ubuntu-16-nginx-php-7.1-wordpress-4   ubuntu-16-nginx-php-7.1-wordpress-4              3                     [OK]
pivotaldata/ubuntu16.04-build                       Ubuntu 16.04 image for GPDB compilation          2
1and1internet/ubuntu-16-php-7.1                     ubuntu-16-php-7.1                                1                     [OK]
pivotaldata/ubuntu-gpdb-dev                         Ubuntu images for GPDB development               1
smartentry/ubuntu                                   ubuntu with smartentry                          1                     [OK]
pivotaldata/ubuntu16.04-test                        Ubuntu 16.04 image for GPDB testing             0
PS C:\Program Files\Docker\Docker>
```

docker pull ubuntu:16:04

```
PS C:\Program Files\Docker\Docker> docker pull ubuntu:16.04
16.04: Pulling from library/ubuntu
61e03ba1d414: Pull complete
4afb39f216bd: Pull complete
e489abdc9f90: Pull complete
999fff7bcc24: Pull complete
Digest: sha256:6aab78d1825b4c15c159fecc62b8eef4fdf0c693a15aace3a605ad44e5e2df0c
Status: Downloaded newer image for ubuntu:16.04
docker.io/library/ubuntu:16.04
```

3) docker pull ubuntu:16.10

```
PS C:\Program Files\Docker\Docker> docker pull ubuntu:16.10
16.10: Pulling from library/ubuntu
dca7be20e546: Pull complete
40bca54f5968: Pull complete
61464f23390e: Pull complete
d99f0bcd5dc8: Pull complete
120db6f90955: Pull complete
Digest: sha256:8dc9652808dc091400d7d5983949043a9f9c7132b15c14814275d25f94bca18a
Status: Downloaded newer image for ubuntu:16.10
docker.io/library/ubuntu:16.10
```

docker images

```
PS C:\Program Files\Docker\Docker> docker images
REPOSITORY      TAG        IMAGE ID        CREATED       SIZE
ubuntu          16.04      065cf14a189c    2 days ago    135MB
ubuntu          16.10      7d3f705d307c    3 years ago   107MB
```

4) removing ubuntu 16.10 images

```
PS C:\Program Files\Docker\Docker> docker rmi 7d
Untagged: ubuntu:16.10
Untagged: ubuntu@sha256:8dc9652808dc091400d7d5983949043a9f9c7132b15c14814275d25f94bca18a
Deleted: sha256:7d3f705d307c7c225398e04d4c4f8512f64eb8a65959a1fb4514dfde18a047e7
Deleted: sha256:d9db289b9342d9617596cd6ee3bba988629e24d9afa5db4e4b0e4e491c65007d
Deleted: sha256:a87725e8597b97f2399bc3aa50b0e2eec903b8ce19055668d3befb012918205c
Deleted: sha256:38cf10a2801529348366953e9b933d3524360dedc91d3e4d5d7f941da0c973c9
Deleted: sha256:61172966249d43026dbd017eec3a9575e37bddf8a269a9f09ecb559d7bfe7fef
Deleted: sha256:57145c01eb80040fdd0a24cde20af4788605b49593188d4f7efab099af89a08e
```

docker images

```
REPOSITORY      TAG       IMAGE ID       CREATED       SIZE
ubuntu          16.04     065cf14a189c   2 days ago    135MB
```

Running our Container

1) docker run ubuntu:16.04 /bin/echo 'Hello world!'

```
PS C:\Program Files\Docker\Docker> docker run ubuntu:16.04 /bin/echo 'Hello world!'
Hello world!
```

2) docker ps

```
PS C:\Program Files\Docker\Docker> docker ps
CONTAINER ID    IMAGE       COMMAND       CREATED      STATUS       PORTS       NAMES
```

docker ps -a

```
PS C:\Program Files\Docker\Docker> docker ps -a
CONTAINER ID   IMAGE         COMMAND              CREATED        STATUS                PORTS      NAMES
31ebc763b50c   ubuntu:16.04  "/bin/echo 'Hello wo…" 23 minutes ago  Exited (0) 23 minutes ago         priceless_austin
```

3) docker run ubuntu:16.04 /bin/bash

```
PS C:\Program Files\Docker\Docker> docker run ubuntu:16.04 /bin/bash
PS C:\Program Files\Docker\Docker>
```

docker ps -a

```
CONTAINER ID   IMAGE         COMMAND              CREATED        STATUS                PORTS      NAMES
b06ea35aeecc   ubuntu:16.04  "/bin/bash"          59 seconds ago  Exited (0) 57 seconds ago         cool_raman
31ebc763b50c   ubuntu:16.04  "/bin/echo 'Hello wo…" 34 minutes ago  Exited (0) 34 minutes ago         priceless_austin
```

docker run -it ubuntu:16.04 /bin/bash

```
PS C:\Program Files\Docker\Docker> docker run -it ubuntu:16.04 /bin/bash
root@79bdbd1473a2:/#
```

pwd and ls in bash

```
root@79bdbd1473a2:/# pwd
/
root@79bdbd1473a2:/# ls
bin  boot  dev  etc  home  lib  lib64  media  mnt  opt  proc  root  run  sbin  srv  sys  tmp  usr  var
root@79bdbd1473a2:/#
```

Stopping the container by typing exit

```
root@79bdbd1473a2:/# exit
exit
```

4) docker run -d ubuntu:16.04 /bin/sleep 3600

```
PS C:\Program Files\Docker\Docker> docker run -d ubuntu:16.04 /bin/sleep 3600
00a5e82129c6bb97f0002f7a0b670b3ac782be54f0a806e9c6b582c5d24006b6
PS C:\Program Files\Docker\Docker>
```

Checking if container is running

```
PS C:\Program Files\Docker\Docker> docker ps
CONTAINER ID    IMAGE          COMMAND            CREATED         STATUS          PORTS       NAMES
00a5e82129c6    ubuntu:16.04   "/bin/sleep 3600"  25 seconds ago  Up 23 seconds               heuristic_spence
```

5) SSHing to an active container

```
PS C:\Program Files\Docker\Docker> docker exec -it 00a /bin/bash
root@00a5e82129c6:/# ps aux
```

List of running /bin/sleep processes for 1 hour

```
root@00a5e82129c6:/# ps aux
USER        PID %CPU %MEM    VSZ    RSS TTY      STAT START    TIME COMMAND
root          1  0.0  0.0   4372    744 ?        Ss   14:43    0:00 /bin/sleep 3600
root          7  0.2  0.0  18236   3296 pts/0    Ss   14:45    0:00 /bin/bash
root         17  0.0  0.0  34420   2832 pts/0    R+   14:46    0:00 ps aux
```

Running a command for 1 hour

```
root@00a5e82129c6:/# exit
exit
PS C:\Program Files\Docker\Docker> docker ps
CONTAINER ID    IMAGE          COMMAND            CREATED         STATUS         PORTS      NAMES
00a5e82129c6    ubuntu:16.04   "/bin/sleep 3600"  3 minutes ago   Up 3 minutes              heuristic_spence
```

6) Stopping a specific container using partial image ID

```
PS C:\Program Files\Docker\Docker> docker stop 00a
00a
```

Checking ps and ps -a

```
PS C:\Program Files\Docker\Docker> docker ps
CONTAINER ID    IMAGE     COMMAND    CREATED    STATUS    PORTS    NAMES
PS C:\Program Files\Docker\Docker> docker ps -a
CONTAINER ID    IMAGE          COMMAND              CREATED         STATUS                     PORTS      NAMES
00a5e82129c6    ubuntu:16.04   "/bin/sleep 3600"    4 minutes ago   Exited (137) 52 seconds ago           heuristic_spence
79bdbd1473a2    ubuntu:16.04   "/bin/bash"          15 minutes ago  Exited (0) 13 minutes ago             jovial_babbage
b06ea35aeecc    ubuntu:16.04   "/bin/bash"          19 minutes ago  Exited (0) 19 minutes ago             cool_raman
31ebc763b50c    ubuntu:16.04   "/bin/echo 'Hello wo…"  53 minutes ago  Exited (0) 53 minutes ago          priceless_austin
```

7) Removing Containers

```
PS C:\Program Files\Docker\Docker> docker rm 00a
00a
PS C:\Program Files\Docker\Docker> docker rm 79
79
PS C:\Program Files\Docker\Docker> docker rm b06
b06
PS C:\Program Files\Docker\Docker> docker rm 31
31
PS C:\Program Files\Docker\Docker> docker ps-a
docker: 'ps-a' is not a docker command.
See 'docker --help'
PS C:\Program Files\Docker\Docker> docker ps -a
CONTAINER ID    IMAGE        COMMAND        CREATED        STATUS        PORTS        NAMES
PS C:\Program Files\Docker\Docker>
```

Running while removing the container after executing run

```
PS C:\Program Files\Docker\Docker> docker run --rm ubuntu:16.04 /bin/echo 'Hello and Goodbye!'
Hello and Goodbye!
PS C:\Program Files\Docker\Docker> docker ps
CONTAINER ID   IMAGE     COMMAND     CREATED    STATUS     PORTS      NAMES
PS C:\Program Files\Docker\Docker> docker ps -a
CONTAINER ID   IMAGE     COMMAND     CREATED    STATUS     PORTS      NAMES
PS C:\Program Files\Docker\Docker>
```